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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/519,483	09/15/2005	Eli Sofer	1887	5311
62433	7590	07/31/2008	EXAMINER	
EDWARD LANGER			VO, TUNG T	
c/o SHIBOLETH YISRAELI ROBERTS ZISMAN & CO.			ART UNIT	PAPER NUMBER
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NEW YORK, NY 10119				
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				07/31/2008 PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/519,483	SOFER, ELI	
	<b>Examiner</b>	<b>Art Unit</b>	
	Tung Vo	2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 11 March 2008.

2a) This action is **FINAL**.                    2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-5, 7, 10, 26, 27, 31 and 35-53 is/are pending in the application.

4a) Of the above claim(s) 6, 8, 9, 11-25, 28-30 and 32-34 is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 1-5, 7, 10, 26, 27, 31, 35-47, 50, 52 and 53 is/are rejected.

7) Claim(s) 48, 49 and 51 is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on 30 December 2004 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All    b) Some \* c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____ .
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)	5) <input type="checkbox"/> Notice of Informal Patent Application
Paper No(s)/Mail Date _____ .	6) <input type="checkbox"/> Other: _____ .

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-5, 7, 10, 31, and 36-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Depta (US 6,549,122) in view of Ellis et al. (US 6,523,006).

Re claims 1, 4, 5, 10, and 36, Depta teaches a system for aiding a person with a visual impairment or visual obstruction (fig. 2), comprising:

means (11 of fig. 2) as at least one computerized imaging device for sensing time/space characteristics and physical characteristics information about a plurality of objects in a field of view said person (distance and locations of the objects are detected by the cameras 11 of fig. 2); means (13 and 14 of fig. 2) as Processing and Control Unit for converting said time/space characteristics and physical characteristics information (col. 4, lines 9-43) and for characterizing (recognition) the object (col. 3, line 58-col. 4, line 25, note converting the information taken by the cameras (11 of fig. 2) into a virtual three-dimensional image, and image detection unit for detecting or recognizing objects based on the information on the surroundings, which would suggest mean for identifying and interpreting the characteristics of the objects); and means as User Interface Module (e.g. 3 and 4 of fig. 2) for verbally for communicating output ((e.g. 15 and 17 of fig. 2) and input information (Control Module inputs information to the Processing

Unit 14 of fig. 2) between said system and said user (col. 4, lines 3-15); wherein said means for interpreting said time/space and physical characteristics information comprises: a sensors processor (1 of fig. 2) and a control unit (4 of fig. 2) for interpreting the sensing data from the sensing means (26 and 11 of fig. 2), and Vision Processing module (an object synthesis (13 of fig. 2) and recognition system (14 of fig. 2)) for interpreting the sensing data from said sensing means.

It is noted that Depta does not particularly discloses the High-Level Vision processing module for interpreting high-level data from sensing means and a World Model database for performing said high-level characterizing as claimed.

However, Ellis teaches the High-Level Vision processing module (110 of figs. 3A and 3B; col. 3, lines 36-56) for interpreting, decomposing, and synthesizing (220 of fig. 2) high-level data from sensing means (A and B of figs. 3A and 3B) and a World Model database (330 of fig. 3B) for performing said high-level characterizing.

Therefore, taking the teachings of Depta and Ellis as a whole, it would have been obvious to one of ordinary skill in the art to modify the teachings of Ellis into the system of Depta to provide a specific description of the three-dimensional object to guide a visual or vision impaired person precisely.

Re claims 2 and 37, Depta further teaches wherein said means for sensing further comprises devices selected from the group consisting of: CCD sensors (11 of fig. 2, Note cameras 11 inherently have CCD sensors).

Re claim 3, Depta further teaches wherein said time/space characteristics and physical characteristics information about an object includes any of: physical dimensions, general shape

description, texture, color, the distance and position of said user from said object, motion of said object, spatial relationships between objects (col. 3, line 58-col. 4, lines 3; Note three dimensional image).

Re claim 31, Depta further teaches 3D object rendering (col. 3, lines 61-col. 4, line 3).

Re claim 38, the combination of Depta and Ellis further discloses wherein said World Model database (330 of fig. 3B, Ellis) comprises data selected from the group: physical descriptions of known objects and components thereof (col. 3, lines 24-36); the relations of said objects to their respective said components; common relations among said components; groupings of said known objects into classes and subclasses (chairs, doors, tables are classes and sub-classes); common properties of said classes, subclasses and groupings (shapes and sizes of chairs, tables, doors); and common relations among and between said classes, subclasses and groupings.

Re claims 7 and 39-42, the combination of Depta and Ellis further teaches a World Model database (330 of fig. 3B; Ellis) is continuously enriched by adoption to new experiences of said person and implemented in at least one option selected from the modes: direct teaching mode; generalization teaching mode by positive enforcement or default; and refinement teaching mode by negative enforcement or correction (col. 3, lines 26-32; Ellis); wherein said direct teaching mode comprises giving a name to a part of a scene by said user (col. 3, lines 33-34); wherein said generalization teaching mode comprises identifying a part of a given scene as belonging to a specific object class, although some of the relationships, or some of the components, may deviate from that identified in said database (col. 3, lines 37-56); wherein said refinement teaching mode comprises refining the set of definitions to permanently exclude in the future an identification of

only part of a scene as belonging to a specific object class when said user has rejected said partial identification (new items are added to library and verbal descriptions to new or rare objects as indicated, see col. 3, lines 36-36).

Re claim 43, Depta further teaches wherein said means for interpretation comprises scene interpretation data and sensed data streams (11 of fig. 2).

Re claim 44, Depta further teaches said means for interpretation (13 and 14 of fig. 2) further comprises color information of said plurality of objects (col. 3, lines 54-55) and Ellis further teaches wherein said means for interpretation further comprises computations for relating distances (col. 3, lines 3-18) and components thereof within the field of vision of said person (col. 2, lines 63-65).

Re claim 45, Depta further teaches wherein said output information comprises said characterization and interpretation of said plurality of objects (e.g. 13 of fig. 2, note image detection unit for detecting or recognizing objects based on the information on the surroundings).

Re claim 46, the combination of Depta and Ellis further teaches wherein said output information further comprises a scene description about said surrounding environment within the field of view of said person (Ellis; note verbal descriptions of new or rare objects within the field of view is considered a scene description, new objects are in the scene, col. 3, lines 32-36; lines 47-56).

Re claim 47, the combination of Depta and Ellis further teaches wherein said scene description is verbally communicated in conversational speech to said person based on the distance of said plurality of objects to said user, the closest being communicated first as having a higher priority (Ellis; col. 3, lines 47-56).

3. Claims 27, 31, 35, 52, and 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ellis et al. (US 6,523,006) in view of Sussman (US 6,198,395).

Re claim 27, Ellis teaches a method for detecting, analyzing, identifying, and reporting a plurality of objects by name to a visually impaired or blind person in a field of view of said person (figs. 1A and 1B) comprising the steps of providing a 3-D imaging system to accurately measure both the coordinates of said plurality of objects in both static and dynamic motion and the characterization of the relationships between said plurality of objects in relation to said person (figs. 3A and 3B, col. 3, lines 7-36); acquiring a plurality of 3-D visual images and information about said plurality of objects (col. 3, lines 24-36); processing said plurality of 3-D visual images and said information (col. 3, lines 37-56); storing said information of said plurality of objects by names in a hierarchy utilizing a structured World Model (col. 3, lines 24-29; 330 of fig. 3B); identifying said plurality of objects, and communicating verbally with said person to report said information about said plurality of objects in said field of view (col. 3, lines 30-56).

It is noted that Ellis does not particularly teach laser imaging device as claimed.

However, Sussman teaches an array of laser sensors for receiving laser signals reflected from objects in the given areas with each laser sensor corresponding to a respective one of the laser transmitters (16 of fig. 1).

Therefore, taking the teachings of Ellis and Sussman as a whole, it would have been obvious to one of ordinary skill in the art to use the laser sensors of Sussman into the method of Ellis in order to provide the blind with a means of traveling independently, confidently, and quickly.

Re claim 31, Ellis further teaches 3D object rendering (col. 2, lines 53-65; col. 5, lines 6—64).

Re claim 35, Ellis further teaches communicating the verbal description of the scene related to said plurality of objects in said field of vision to said person (col. 3, lines 30-36).

Re claim 52, Ellis further teaches providing a process of learning new facts about 8aid physical surroundings of said person for growth and expansion of said World Model (col. 3, lines 24-30).

Re claim 53, Ellis further teaches wherein said World Model hierarchically represents existing knowledge of the physical surroundings of said person; classes of said plurality of objects; the common relationships among said classes; the relationships of said plurality of objects to their various components; and the way low-level components in said hierarchy can be composed of regular surfaces (col. 3, lines 37-64).

4. Claims 26 and 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Depta (US 6,549,122) in view of Ellis et al. (US 6,523,006) as applied to claim 10, and further in view of Basson et al. (US 6,975,991).

Re claims 26 and 50, the combination of Depta and Ellis teaches wherein said instructions comprise naming and classifying objects known to said user (col. 3, lines 24-20, new items is added and updated).

It is noted that the combination of Depta and Ellis does not particularly teach an automatic speech recognition unit for verbal input of instructions from said person to said Processing and Control Unit.

However, Basson teaches an automatic speech recognition unit for verbal input of instructions from said person to said Processing and Control Unit (218 of fig. 2; Note the transcription service (218 of fig. 2), itself, may comprise: a human stenographer who transcribes the audio content, in real-time, into text; a voice recognition system which automatically recognizes the audio content, also in real-time, and outputs a textual representation of the decoded speech; or some combination of both human stenographer and automatic recognition; and the computer (200 of fig. 2) may execute a speech recognition engine).

Therefore, taking the teachings of Depta, Ellis, and Basson as a whole, it would have been obvious to one of ordinary skill in the art to use the speech recognition of Basson for carrying the combined apparatus of Depta and Ellis in order to allow the user to easily detect voice and moving around.

#### *Allowable Subject Matter*

5. Claims 48-49 and 51 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### *Conclusion*

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

***Contact Information***

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tung Vo whose telephone number is 571-272-7340. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on 571-272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2621

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Tung Vo/  
Primary Examiner, Art Unit 2621